

# Inspection

## PCI and Distress Indices

### Field Inspection - Basic Operations

Collecting and recording of field inspection data are probably the most frequently repeated tasks in PAVER. The **Inspection** component of PAVER can be launched from the **Visual Menu** under **Inspection** or from the **PAVER Button Bar** via **PCI**.

### Entering Inspection Dates and Samples

To enter inspection information, first verify that the desired network/branch/section is selected using the **Select Inventory Item** window. Notice that the name of the window corresponds to the network/branch/section that is currently selected. The **Inspection** drop-down box allows you to select a previous inspection by the inspection date. This is useful if you need to add or edit information for a previous inspection. If you wish to enter information for a new inspection, click the **Edit** button next to the **Inspection** window. The **Inspections** window appears, displaying a list of past inspections. Click the **New** button and a new inspection, with the current date, appears at the top of the list.

Select  
Inventory Item  
window

Create a new  
inspection

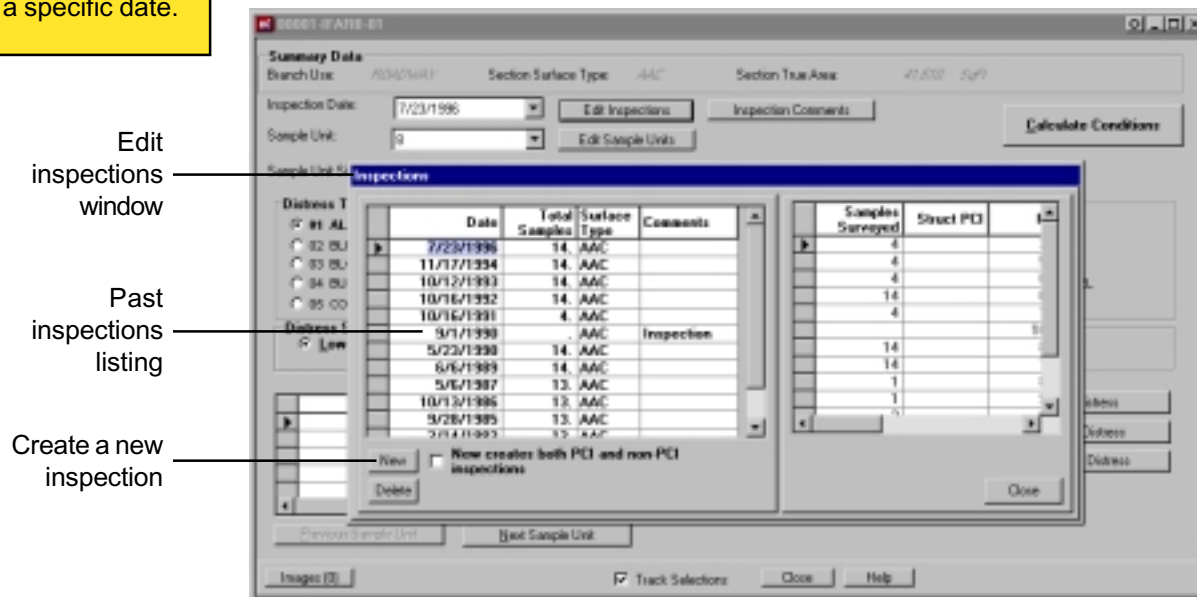
The screenshot displays two overlapping windows from the PAVER software. The top window, titled 'Select Inventory Item', has fields for Network (0808), Branch (FARM), Section (01), From (NEWTON DRIVE), and To (INTERSTATE DRIVE). The bottom window, titled '0808 - FARM - 01', contains a 'Summary Data' section with fields for Branch Use (ASPH/CONC), Section Surface Type (AAC), and Section True Area (41,652 sqft). Below this is an 'Inspection Date' dropdown set to '7/23/2008' with an 'Edit Inspections' button. Other fields include 'Sample Unit' (3), 'Sample Unit Size' (200.00 sqft), and a 'Calculate Conditions' button. A 'Distress Type' section lists 15 options with radio buttons, including '01 ALLIGATOR CR' (selected). A 'Distress Severity' section has radio buttons for 'Low', 'Medium', 'High', and 'N/A'. A 'Distress Quantity' field is set to '5.00 sqft'. At the bottom is a table with columns: Distress, Description, Severity, Quantity/Unit, and Comments. The table contains four rows of data. To the right of the table are buttons for 'Add Distress', 'Delete Distress', and 'Replace Distress'. Navigation buttons 'Previous Sample Unit' and 'Next Sample Unit' are at the bottom left, and 'Images (0)', 'Track Selections', 'Close', and 'Help' are at the bottom right.

| Distress | Description | Severity | Quantity/Unit | Comments |
|----------|-------------|----------|---------------|----------|
| 1        | ALLIGATOR   | L        | 6.3 of 1      |          |
| 1        | ALLIGATOR   | M        | 30.3 of 1     |          |
| 4        | BUMPS/AUGS  | L        | 20.0 of 1     |          |
| 7        | EDGE        | L        | 14.2 of 1     |          |
| 7        | EDGE        | M        | 15.0 of 1     |          |

## Note

Distress information entered into PAVER is associated with a specific date.

When you first create a new inspection date, the new inspection has the same sample information as the previous inspection. If the actual inspection date is different, click on the date and edit it. You may also edit the other fields in the window, including entering a comment for the inspection. When the inspection date and other fields are as desired, press the **Close** button to return to the **Inspection Data Entry** window; the most recent inspection will be the currently selected one.



Similarly, if you want to enter comments for an inspection date, click on the **Insp. Date – Comments** box and enter a comment (text string), which is stored with that inspection date. To check the comments on any given date, make the date current in the date window and click the **Insp. Date – Comments** box to view the contents.

PAVER uses sampling techniques for performing inspections. While you can inspect each section in its entirety, it is not practical to do so. It is acceptable to inspect only portions of a section. To use this technique, each section is divided into smaller pieces called sample units. Inspection information is collected from one or more sample units.

The PAVER **Inspection Data Entry** window matches the field inspection, and allows you to enter your survey information. Click the **Edit** button, next to the **Sample** window, to bring up the **Select Samples** window. The **Select Samples** window contains two lists. The left side shows the samples to be included in this inspection. The right side shows samples that were used in previous inspections. To use a sample defined in a previous inspection, click on the sample and then click the arrow button located between the two lists.

To add a completely new sample, click the **Add New** button. A sample is added to the end of the list with the **Sample Number** of “New” and a **Sample Size** of zero. Click on the **Sample Number** field and change the ID to the sample ID used in the actual field inspection. You may also enter a comment for the sample and switch the **Sample Type** between **R** (Random), and **A** (Additional).

If there is a sample definition in the left hand list that you do not wish to use, click on the sample you wish to remove, then click on the **Remove** button. If the sample already has inspection information (as can occur when editing the sample list for an existing inspection), PAVER informs you that the sample already contains information, and asks you to confirm that you really wish to delete the sample and any inspection information within the sample.

## Entering Inspection Information

### Note

You may enter duplicate distress type/severities. For example:

Alligator L 50  
Alligator L 40

The PAVER **Inspection Data Entry** window is designed to be easy to use, while allowing experienced users to rapidly enter large amounts of inspection data. Once you learn the basic operations and become familiar with the window, it is possible to enter all the inspection information for an entire section using only the keyboard.

Once the section is selected and the inspection date and samples are set up, you are ready to enter the individual distresses. Click on the distress code and description, then click the desired distress **Severity** level, then click the **Quantity** field and type in the distress quantity. Note that the distress codes available in the list depend on the type of pavement you are inspecting, since some distresses are only found on a particular surface. Similarly, when you choose a distress code, PAVER modifies the available severity levels since some distresses cannot be assigned a severity level.

After you have entered the **Distress**, **Severity**, and **Quantity**, click the **Add** button to add the distress to the list. Similarly, if you want to delete an existing distress from the list, highlight a row by clicking on it and click the **Delete** button. The **Replace** button deletes the highlighted record and replaces that information with the current **Distress/Severity/Quantity** information. If you wish to enter a comment for the distress, click on the **Section Comments** button in the list of distresses.

Once you have entered inspection data for an entire sample, proceed to the next sample in the list by choosing another sample from the **Sample** drop-down box. You may also review previously entered data by using the **Sample** drop-down box.

Distress codes  
and  
descriptions

Severity level

Quantity field

Distress  
summary for a  
sample unit

The screenshot shows the PAVER Inspection Data Entry window. At the top, there are fields for Branch Use (AD347441), Section Surface Type (AAC), and Section True Area (41,000 SqFt). Below these are fields for Inspection Date (7/23/1996), Sample Unit (9), and Sample Unit Size (2000.00 SqFt). There are buttons for 'Edit Inspections', 'Inspection Comments', 'Edit Sample Units', and 'Calculate Conditions'. A checkbox 'No distresses found during inspection' is also present.

The main section is titled 'Distress Type' and contains a grid of radio buttons for selecting distress types and severity levels. The selected type is '01 ALLIGATOR CR' and the severity is 'Low'. The 'Distress Quantity' field is set to '5.00'.

Below the selection area is a table showing the entered distress data:

| Distress | Description | Severity | Quantity | Units | Comments |
|----------|-------------|----------|----------|-------|----------|
| 1        | ALLIGATOR   | L        | 5.00     | SqFt  |          |
| 1        | ALLIGATOR   | M        | 30.00    | SqFt  |          |
| 4        | BUMPS/SAGS  | L        | 20.00    | SqFt  |          |
| 7        | EDGE        | L        | 142.00   | SqFt  |          |
| 7        | EDGE        | M        | 15.00    | SqFt  |          |

At the bottom, there are buttons for 'Previous Sample Unit', 'Next Sample Unit', 'Images (3)', 'Track Selections', 'Close', and 'Help'. On the right side, there are buttons for 'Add Distress', 'Delete Distress', and 'Replace Distress'.

## For Maximum Speed - Keyboard Only

The most repetitive part of inspection data entry is inputting the distress data. Once familiar with the **PAVER Inspection Data Entry** window, distress data entry can be performed totally on the keyboard.

To perform keyboard-only data entry, first set up the inspection and sample information as described in the previous section. All distress codes are two-digit numbers, and are shown to the left of the distress descriptions. To enter “Bleeding”, for example, type the two-digit code “02.” A rectangle appears around the code and description. You may change the distress selected by typing a different code, or by moving the selection rectangle with the arrow keys.

Select the proper **Severity** by typing “L” for **Low**, “M” for **Medium**, and “H” for **High**. Once you type a severity code, the cursor immediately moves to the **Quantity** field where you can type in the distress quantity. Note that the entire **Quantity** field is highlighted, meaning that anything in the box is immediately overwritten by what you type. If the distress has no severity level, then the **Low**, **Medium**, and **High** options are disabled (gray). To skip the severity, press the Tab key twice. The cursor skips first to the N/A option, then to the **Quantity** field.

Once you have typed in a quantity, add the distress to the list by typing “A” for **Add**, or by pressing the Enter key. PAVER creates a new row in the list of distresses and signals you with a short beep or click sound to let you know the data has been entered.

To enter a comment, you need to use the mouse to click on the **Comments** field in the list of distresses entered and type in the comment. When finished, click on the next distress code and resume keyboard-only entry.

When you are finished entering all the distresses for a sample, move to the next sample by typing “N” for **Next**, or move to a previous sample by typing “P” for **Previous**.

## Batch Inspection Data Entry

In order to expedite inspection data entry, you may enter multiple inspection records at one time. For video inspection data, it must be in a specified format. There are two options for video inspection data imports. One option requires six ASCII text files. The other option requires at least one of five tables in an Microsoft Access database. For specific format requirements, see **Appendix B**. After data is in the correct format and all files or tables are complete, begin the batch entry by selecting the option from the PAVER **Add-Ins** menu.

## Calculating the PCI after Inspection

Within the **Inspection Data Entry** window, PAVER allows the user to view the condition of an individual section immediately after distress data is entered. To access this feature, click the **Calculate Conditions** button in the **Inspection Data Entry** window. The section properties are all displayed at the top of the window. In the middle of the window, Condition **Index**, Inspection **Date**, and **Condition** Value are all displayed. This window also gives you basic information about the section that you are viewing. This is a description of the information available by tab:

- **All Indices** – This tab displays the **Condition Value** for all conditions associated with the current section.
- **Individual Distresses** – This tab displays distress information for every distress entry in every sample of the current inspection date. Added to the information is the density of that distress and the corresponding deduct value.
- **Extrapolated Distresses** – This table shows each distress type (all identical distress type and severity levels from the previous tab are grouped together here) with the quantities adjusted to reflect the extrapolated value. With random samples, PAVER extrapolates the distress quantity across the entire section.
- **Sample/Distress Summaries** – The left side of this tab displays the number of samples surveyed and compares the total number of samples to the recommended number for a project level inspection. The right side of this tab groups all recorded distressed by type and calculates the corresponding percentages.
- **Sample Info** – General data about each sample involved in the inspection is included here.

Again, right clicking any table provides **Print** and **Export** options. There is also a **Print** button at the bottom of the window.

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## Other Conditions

### User-Editable Condition Indices

PAVER computes the value of the PCI (and all PCI related distresses defined in **System Tables/Condition Types/User Defined Distress Indices**). You may input all other condition index values in this table. The value can be accessed and utilized in other areas of the program, but the input is manual. Click on the field next to the condition index you would like to use (in the **Value** column) and type the data in directly. To add, remove, or edit the list of indices, click on the **Select Indices** button. This activates the same table viewed when **Condition Type Selection** is selected via **Visual Menu...System Tables...Condition Types** (see **System Tables** under **Condition Types**). The **Inspection Date Comment** button allows you to view the comments entered for this inspection date.

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# Inspection Data Import (PAVER Database)

## Copying Inspection Data

PAVER allows you to copy inspection data from one version of a database to another copy of the same database by using the **Inspection Data Import**. This can be useful when it is desired to copy the inspection information that was entered in one database to another similar database. To get started, click on **Inspection Data Import (PAVER Database)**. This is located on the **Visual Menu** under **Inspection**.

A Windows dialog box appears on the screen asking for the database file from which you wish to copy the inspection information. Once you have located the correct database file, a PAVER box appears and asks which inspection dates you wish to copy to the online PAVER database. Select the appropriate dates from the list, click OK, and the inspection data is imported.